



Wisconsin Entomological Society Newsletter

Volume 28, Number 1

March 2001

UPDATE ON THE REGAL FRITILLARY IN WISCONSIN

by Ann Swengel

The spectacular Regal Fritillary (*Speyeria idalia*) was listed in Wisconsin as threatened in 1989 and endangered in 1997. My husband, Scott Swengel, and I have surveyed Regal populations here each year since 1990. We also conducted a companion study in five other states (Illinois, Iowa, Minnesota, Missouri, and North Dakota) from 1990 through 1999. In the latter three states, many large Regal populations occurred, allowing us to learn more quickly (or at all) many interesting relationships to habitat characteristics and management that would be very difficult to demonstrate only with the few populations in Wisconsin.

From our surveys, others' reports (published in this newsletter), informal tips, and the DNR's statewide status survey in 1993 and 1994, the Regal Fritillary was known to exist during the 1990s as a population (multiple individuals seen in the site on multiple dates) at only six sites or clusters of sites: Buena Vista (Portage County), Hogback (Crawford), Muralt/Oliver*

(Green), Pine Island* (Columbia), Thomson/Barneveld (Iowa), and Waterfowl Production Area(s)* (St. Croix). Only the three starred areas have records known from before the 1990s, and the three largest known populations today do not have records from before the 1990s. It's all but impossible to piece together the very long-term picture of the Regal's distribution and trend in Wisconsin. If even half the effort in the 1990s to find and publish Regal records had occurred in earlier decades, how many more populations would have been found then? We'll never know. But we can use what we know now to help improve the future outlook for this species in our state.

We started surveys at Muralt and Oliver in 1990, as well as at the first tract acquired at the Thomson preserve ("site 1"), where we discovered the first Regal for this area. Unfortunately, another initial research finding was

the disappearance of the population at Spring Green. In 1992, we started surveys at Hogback and the later land acquisition at Thomson ("site 2"), after others discovered Regal



Regal Fritillary (*Speyeria idalia*)
Photo: Ann Swengel, 6/17/97

populations in these places. We started surveys at Pine Island in 1993 but found no Regals until 1995, when we recorded populations at two sites.

In 1997, Scott was determined to search for Regals at Buena Vista. It has the factors most strongly associated with higher Regal numbers in our multi-state study (very large grassland size, presence of wetter and drier grassland types, and unintensive management by light grazing and/or haying, with any burning in small, scattered, and infrequent fires). My ornithologist husband also noticed that sites with larger Regal populations also had better bird-watching, and Buena Vista has an outstanding avian community. Still, I thought he was crazy to expect Regals there, because Regals are prairie butterflies. I should have trusted my own analyses! Poetically, I found the first Regal—a feeling I will treasure for the rest of my life. Apparently, Regals

Please see, **Regals**, Page 2



Regal Fritillary (closed position)
Photo: Ann Swengel, 6/18/92

The Wisconsin Entomological Society Newsletter is published three times a year, at irregular intervals. It is provided to encourage and facilitate the exchange of information by the membership, and to keep the members informed of the activities of the organization. Members are strongly encouraged to contribute items for inclusion in the newsletter. Please send all news items, notes, new or interesting insect records, season summaries, and research requests to the editor:

Janice Stiefel, 2125 Grove Road, Bailey's Harbor, WI 54202, e-mail: jstiefel@itol.com

NOTE: Please report any address changes to Les Ferge, 7119 Hubbard Ave., Middleton, WI 53562. e-mail: ferge@chorus.net

2001 Dues Notice!

A collection envelope is enclosed with this newsletter, for the convenience of members who haven't paid their dues for 2001. No envelope is provided if you are paid up for 2001 or beyond. Please check the address label on this newsletter for your current dues status. Send check to our treasurer, Tom Rocheleau, 3100 Buena Vista St., Madison, WI 53704. Also appearing after your name will be your membership category (Individual, Family, Sustaining, or Patron). Be sure to notify us of any address changes when you send in your check or you may notify Les Ferge (address given at the bottom of page 1). ☞

Regals, from Page 1

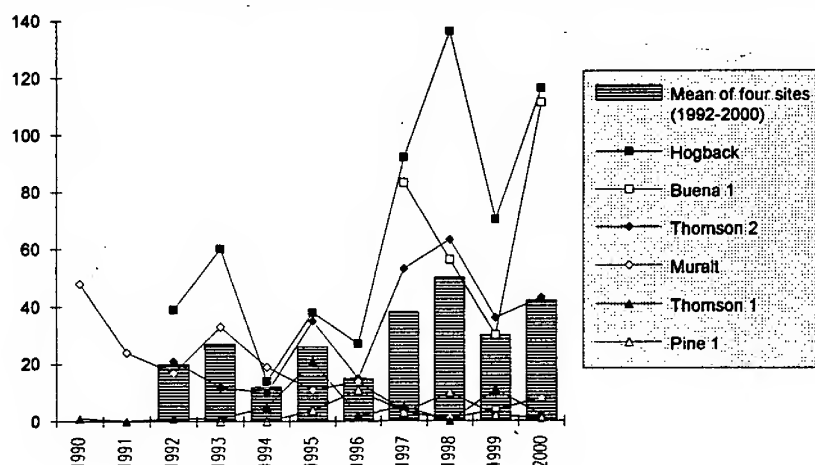
define prairie somewhat differently than humans do. Meanwhile, Jim Margenau and his students re-discovered Regals in St. Croix County at large but certainly not pristine grasslands. The figure shows the highest survey counts of Regals at each site still supporting a Regal population that we've monitored for at least four years. We used the same survey route each year (except we expanded the route at Pine Island when we found Regals there). All surveys occurred with no rain, and either a minimum temperature of 68°F or a minimum of 20% sunshine with a minimum temperature of 60°F. We surveyed sites several times each flight period, but couldn't do weekly surveys at each site (which would ensure hitting near peak

numbers) because we had other things to do (like work) and too many sites to check, at least in minimally acceptable weather. So we aimed to survey each site in the main flight period, not specifically peak, since it's hard to know exactly when peak is until after it's passed.

But we've mostly come fairly close to peak anyway. For 90% of the populations in the figure (i.e., each site in each year), a survey occurred within seven days before or after the date on which we observed the most Regals anywhere in the state (i.e., our observed peak date). In the other 10%, surveys occurred within 11 days before to 15 days after the peak date. Since about 3 weeks (or more) typically pass between first Regal adult and peak week, and then usually about 4-5 (or more) weeks after that to last adult, Numbers are high for a fairly broad period of 1-2 weeks before and after peak week.

The most obvious thing about the graph is how tangled and erratic the lines are. Some of this is due to the vagaries of when we got our highest count relative to weather and flight period timing at a given site. But a lot of this looks like the abundance fluctuations discussed so much by the British, from their widespread long-term butterfly surveying. The bar graph imbedded amongst the lines for individual sites shows the average number of Regals recorded at the four sites surveyed each year from 1992 to 2000.

Unfortunately, considerable population decline occurred at Muralt, where the entire habitat has been rotationally burned since the 1970s, with about 10-40% burned



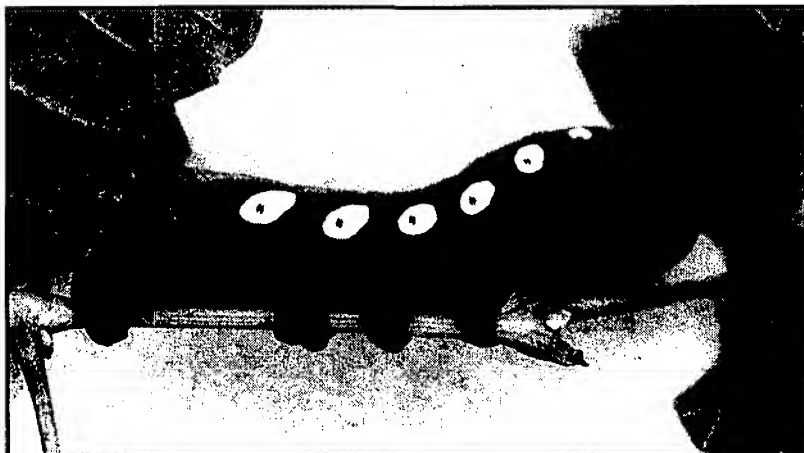
WES Spring Meeting
Milwaukee Public Museum
 Education Classroom,
 Ground Floor
Sat. April 21, 2001, 1:00 P.M.

Please check in at the information desk on the main concourse. Anyone who wishes to visit the collections or borrow material should contact the appropriate curator in advance:
Lepidoptera—Carla Penz: email flea@mpm.edu, 414-278-6936;
Other Insects—Gary Noonan: email carabid@mpm.edu, 414-278-2758; **Non-insect Invertebrates**—Joan Jass: email jass@mpm.edu, 414-278-2761.
 The meeting will include an overview and tour of the Puelicher Butterfly Garden, as well as election of officers. Please forward nominations to Phil Pellitteri: email pellitte@entomology.wisc.edu, 608-262-6510. ☞

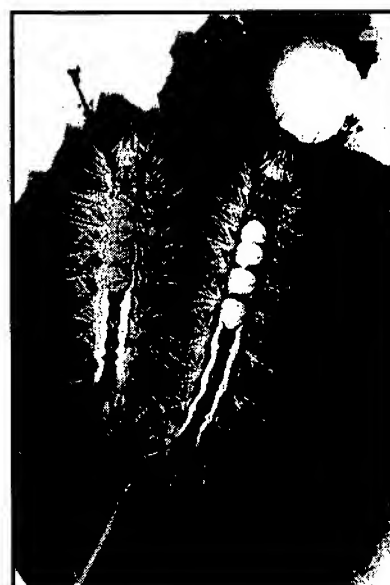
per year during our study period, except for no fires in 1990, 1993, 1998, and 2000. Our highest survey totals occurred in 1990 and 1993, with very low numbers from 1997 to 1999, but an encouraging (if small) increase in 2000. I didn't graph Oliver, where Bob Borth reported a consistent population in this newsletter in 1992, because we found 1-4 individuals on five dates in 1991, 1993, and 1994, and none since (1995-2000). This tiny prairie near Muralt was entirely burned in 1989, 1992, 1997, and 2000. I also left out Pine Island (site 2), where we recorded a population in 1995 and 1996 but no Regals in summer 1997-2000, following fires that burned this entire habitat in spring 1997 and again in 1998. A population still occurs, but is small and precarious, at Pine Island (site 1), which has recently been entirely burned over with partial fires in 1995, 1997, and 1999. Over the years, we have communicated with the owning agencies and managers of these sites, and remain hopeful for wider implementation of the excellent Regal management information

Please see. **Regals**, Page 5

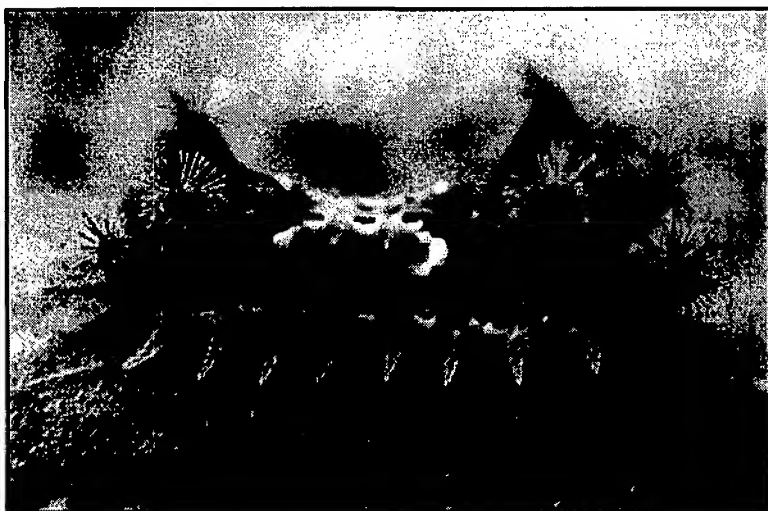
2000 PHOTO SALON WINNERS



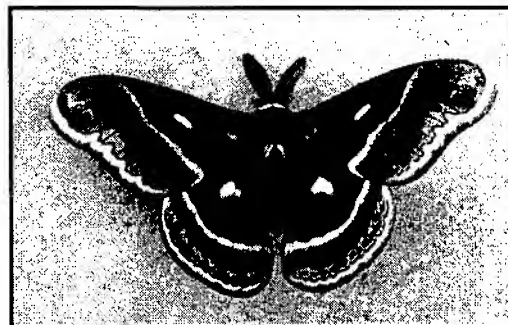
Pandorus Sphinx Moth Larva (*Eumorpha pandorus*) FIRST PLACE
Janice Stiefel, Bailey's Harbor, WI—Photographed 8/31/00
Found on Wild Grape by Scott Randall in Glenbeulah, WI



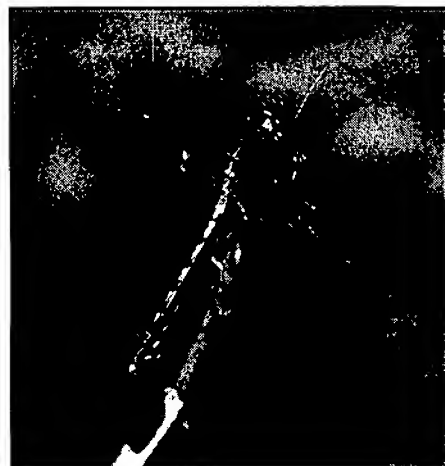
White-Marked Tussock Larvae (*Orgyia leucostigma*) THIRD PLACE
Janice Stiefel, Bailey's Harbor, WI
Photographed: 8/9/00; 36 days old



Unidentified Cupmoth Larva SECOND PLACE
Gene Drecktrah, Oshkosh, WI
Photographed: 1980 Montrose, Australia



Columbia Silkmoth (*Hyalophora columbia*) FOURTH PLACE
Janice Stiefel, Photographed: 6/6/00 Door Co.
(First time recorded from Door County)



Pygmy Snaketail (*Ophiogomphus howei*)
HONORABLE MENTION
Karl Legler, Sauk City, WI
Photographed: 6/00 Burnett Co.
Threatened Species in Wisconsin



The Herald Moth (*Scoliopteryx libatrix*)
HONORABLE MENTION
Janice Stiefel, Bailey's Harbor, WI
Photographed: 7/31/00 Door Co.

Photo Notes:

The White-Marked Tussock Moth Larvae were raised from an egg mass that was found in Elkhart Lake, WI 10/20/99. The eggs were thought to be those of the Gypsy Moth. Eggs were over-wintered in a refrigerator, brought out in early June 2000 and hatched on 7/4/00. The four tufts on the left larva are bright yellow, whereas the tufts on the right are bright white. Obviously their coloration is variable, even if they are siblings.

The Pandorus Sphinx larva was transported from Glenbeulah (Sheboygan Co.) to Bailey's Harbor (Door Co.) by WES members, Therese & Scott Randall. They felt it was worth a 3 hr. trip, just to be photographed. The color is a brilliant rust-orange. Note how the small black spiracles (breathing holes) are ringed by cream-colored circles; except for the one at the rear. ☺

One Day in May

by Anita Carpenter

Photos: Anita Carpenter, Necedah National Wildlife Refuge, 5/10/94

Finally, a sunny day in May coincided with a day off work so I coaxed my husband, Jerry, into making our annual pilgrimage to the Necedah National Wildlife Refuge in Central Wisconsin. I wanted to renew my acquaintance with spring in the central sands region and to see what butterflies were flying.

We arrived about 10:30 A.M. While Jerry stayed near the car, I walked along the road. Blue spikes of Wild Lupine were in full bloom, as were the lavender blossoms of the earth-hugging Bird's-Foot Violet. The easily-overlooked Rock Cress, with its diminutive, four-petaled white flowers, were everywhere. Scattered clumps of Yellow Puccoons punctuated the greening landscape. A little flock of Black-Capped Chickadees flitted and chitted about the oaks. But where were the butterflies? I strolled for half a mile. Not a butterfly, not an insect, was to be found. I thought: "*This is really strange. I've always observed butterflies here. Perhaps we should travel to some other place to try to find some.*"

Then the atmosphere began to take on a weird feeling. The light began to fade. A solar eclipse was underway! I had forgotten all about it. I grabbed two pieces of paper and poked a pinhole in one to let the fading sunlight shine through onto the second sheet so that the image of the moon crossing the sun was visible. I looked around and realized that I didn't need paper. Thousands upon thousands of identical images were projected through minute holes in tree leaves onto the road, tree trunks, other leaves, and the car.

As the moon cast its darkening shadow upon the earth, the remaining daylight became more eerie and surreal. It was now twilight at noon. One could understand how ancient peoples might think the world was coming to an end. Nothing stirred—not a bird, not a tree leaf, not a whisper of wind. We ate lunch in a strange half-light.

After about 1½ hours, the moon reached its maximum coverage of the sun and moved off to the right. The



Persius Duskywing
(*Erynnis persius*)

90% total solar eclipse was receding and ever so slowly, daylight grew brighter. By now, we decided that it was too late to go somewhere else. If

nothing else happened, we had enjoyed the eclipse, scenery and solitude.

I walked along the road again. Although daylight seemed back to normal, still nothing moved. Then, as if on cue, nature's music makers broke the silence. Northern Leopard Frogs croaked, trying to out-duel trilling American Toads. Rose-Breasted Grosbeaks broke into song as did the Robins. Bluebirds bubbled, Yellow Warblers lilted, Baltimore Orioles chortled, Least Flycatchers "che-becked," Downy Woodpeckers chipped, Song Sparrows warbled, and Chickadees "chick-a-dee-dee-deed." Song surrounded me. I was listening to dawn's avian chorus at 1:30 P.M.! I had never heard so much joyous bird sound in the early afternoon before. It lasted about fifteen minutes, then tapered off.

A slithering Eastern Garter Snake stirred the dry oak leaves. Instantly, as if the theory of



Eastern Pine Elfin
(*Callophrys niphon*)

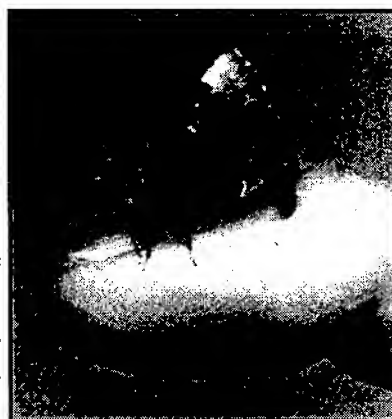


Brown Elfin (*Callophrys augustinus*)

spontaneous generation was for real, butterflies were everywhere basking on the sandy, dirt road. They were so abundant I didn't know which one to look at or photograph first. Identifying the tattered American Ladies was easy but, oh, those Duskywings. Several male and female Juvenal Duskywings basked, as did a

smaller male Persius Duskywing. A few Spring Azures laterally basked, soaking up the warmth as did three Elfin species. I had seen Eastern Pine Elfins here before, so they weren't unexpected but today the Brown Elfin was a surprise. And to top that, a short time later, I saw my

first and, to date, my only Henry's Elfin. It was so cooperative it even perched on my index finger and posed for a picture. Several white with green-veined Olympia Marbles nectared on Rock Cress as did one Mustard White. Butterfly activity was intense for about an hour. I



Henry's Elfin (*Callophrys henrici*)

was running back and forth on this fifty meter stretch of road, chasing butterflies. I was in heaven. This was glorious.

Dragonflies darted about. One landed nearby. I took its picture. Time flew. I did not want to leave the refuge that day. I felt that I had experienced something special. If I hadn't witnessed it for myself, I

Please see, **One Day in May**, Page 5

2000 WISCONSIN LEPIDOPTERA SEASON SUMMARY

Coordinator: Leslie A. Ferge



As in the previous two years, the 2000 season began early following a mild winter, phenologically not as early as 1998 but earlier than 1999. Ferge documented early records of several species of hibernating Noctuidae (*Eupsilia* and *Lithophane* species) on 25 February in Rock County, found spring emerging Noctuidae and Geometridae in early March in Jackson County, but experienced a slowdown due to cold conditions in May. Summer temperatures were unremarkable, but rainy conditions were prevalent in some areas. The season lasted well into fall, with mild periods allowing moth activity to persist into early November. Sabourin noted a generally mild season in northwestern Wisconsin, but not as humid as the past three years. The Swengels reported a good season for migrants, but not as good as 1999. They reported *Junonia coenia* in many sites, with the first sighting in Sauk County on 7 May. *Euptoleta claudia* was seen in Burnett, Crawford, Jackson, Portage and Sauk Counties, from early June through August. *Strymon melinus* and

Contributors Cited:

RJB	Robert J. Borth
JAЕ	James A. Ebner
CBF	Carol B. Ferge
LAF	Leslie A. Ferge
JCP	James C. Parkinson
TR	Tom Rocheleau
MS	Michael Sabourin
JJS	Janice J. Stiefel
SAS	Ann & Scott Swengel

Eurema lisa were also reported from several localities, extending into central Wisconsin. Monarchs were seen from 15 May through 1 November, arriving as early as last year but persisting a bit later. A significant number of stray or migrant moth species were collected, including *Tetanolita mynesalis*, *Anticarsia gemmatilis*, *Ctenoplusia oxygramma*, *Magusa orbifera*, *Euxoa auxillaris*, *Condica sutor* and *Agrotis subterranea*, the latter two being new

state records taken at bait in early November. The records are arranged systematically by checklist number, following the *Checklist of the Lepidoptera of America North of Mexico* (Hodges et al., 1983). New county records are indicated by county names appearing in CAPITAL letters. Abbreviations used in the data include:

CF=County Forest NWR=National Wildlife Refuge
SF=State Forest SFA=State Fishery Area
SNA=State Natural Area

SUMMARY begins on Page 6

One Day in May, from Page 4

never would have imagined the profound effect a solar eclipse has on nature. The "false night" with its eeriest stillness had triggered the "false dawn" with its incredible burst of song and activity. From its quiet, inauspicious beginning to its unbelievable conclusion, this one day in May was extraordinary. It has been the most memorable day I've spent in the field.

But the excitement of "the day of the solar eclipse" was to resurface four years later. Remember the picture of that dragonfly? I was just beginning to study and identify dragonflies, so just by pure serendipity, I had taken this one's picture. I couldn't identify the individual and cataloged the slide as "unidentified." I had no idea that that photograph would eventually become the first recorded documentation for a newly discovered, early-flying dragonfly species in Wisconsin. The species, which was subsequently discovered and identified by Karl Legler, was the Ringed Bog Haunter (*Williamsonia litnerti*). I couldn't believe my luck. I had been in the right place, at the right time, under the right conditions. What a day! ☺

Anita, a WES member, is a pharmacist in Oshkosh, WI. But her real passion is nature. She explores, photographs, writes, and speaks on the subject. For 20 years she has written her "Badger Tracks" nature column in the local Audubon chapter newsletter is a regular contributor to *Wisconsin Natural Resources Magazine*—writing on everything from atmospheric optical phenomena to insects.

Regals, from Page 2

described in the Bureau of Endangered Resources' June 1999 report (PUB-ER-085-99), "*The Endangered and Threatened Invertebrates of Wisconsin*." The DNR has shown increased interest in developing management protocols appropriate for rare butterflies, which will be good news for butterflies where implemented.

Results are hopeful at the larger populations. At Thomson 2, half the site was burned in spring 1992, with steadily decreasing areas burned in 1995 and 1997, and the smallest fire in 1996. While the 1995 fire reduced the never-burned area to about 30% of the habitat, this area (where we record most of the Regals) has not decreased further since. Increased Regal numbers at this site also appear

associated with areas of brush clearance, done by dedicated volunteers. Hogback has had a relatively large population both when it was private farmland with light cattle grazing and after grazing removal upon becoming a Nature Conservancy preserve. Brush cutting but no burning has since occurred (through summer 2000). In recent years, the Nature Conservancy has invested considerable resources in Regal surveys and an evolving approach to habitat management. Most heartening is the widespread distribution and areas of localized abundance of Regals at Buena Vista. Since 1992, only about 5% of this site was burned per year in scattered patches, while about 7% per year was cattle grazed, and lesser amounts subject to haying and brush control. The patterns of Regal numbers relative to site management in our Wisconsin surveys are consistent with our studies elsewhere and with the BER report. ☺

Ann is vice-president of the North American Butterfly Association (NABA) and a member of WES. She and her husband, Scott, enthusiastically survey butterflies and have published a number of scientific papers on their observations.

2000 SUMMARY

MONA No.	Species Name	County	Locality	Date 1	Date 2	Contr.
BUTTERFLIES						
3954	Erynnis martialis (Scudder, 1869)	Burnett	Burnett CF & Crex Meadows	25 May 2000	27 Jul 2000	SAS
3954	Erynnis martialis (Scudder, 1869)	Burnett	Namekagon Barrens	11 Aug 2000		JCP
3958	Erynnis lucilius (Scudder & Burgess, 1870)	Grant	Cassville	23 Jul 2000		JCP
4006	Oarisma powesheik (Parker, 1870)	Waukesha	Kettle Moraine SF	5 Jul 2000		JAЕ
4013	Hylephila phyleus (Drury, [1773])	Grant	Jamestown Twp.	3 Sep 2000		LAF
4013	Hylephila phyleus (Drury, [1773])	JACKSON	Black River SF/Jackson CF	20 Jul 2000		SAS
4013	Hylephila phyleus (Drury, [1773])	Waukesha		5 Sep 2000	19 Oct 2000	JAЕ
4022	Hesperia ottoe W. H. Edwards, 1866	Crawford	Hogback Prairie	4 Jul 2000		SAS
4023	Hesperia leonardus leonardus Harris, 1862	Burnett	Namekagon Barrens	11 Aug 2000		JCP
4023	Hesperia leonardus leonardus Harris, 1862	Douglas	Solon Springs Barrens SNA	11 Aug 2000		JCP
4023	Hesperia leonardus leonardus Harris, 1862	Jackson	Black River SF/Jackson CF	8 Aug 2000		SAS
4023	Hesperia leonardus leonardus Harris, 1862	Portage	Buena Vista Marsh	22 Aug 2000		SAS
4023	Hesperia leonardus leonardus Harris, 1862	Wood	Highway X	23 Aug 2000		SAS
4027	Hesperia metea Scudder, 1864	Jackson	Bauer Brockway Barrens	2 May 2000		SAS
4042	Polites origenes (Fabricius, 1793)	Waukesha	Kettle Moraine SF	15 Jul 2000		JAЕ
4058	Poanes massasoit (Scudder, 1864)	COLUMBIA	French Creek Wildlife Area	15 Jul 2000		LAF
4064	Poanes viator (W. H. Edwards, 1865)	COLUMBIA	French Creek Wildlife Area	15 Jul 2000		LAF
4072	Euphyes dion (W. H. Edwards, 1879)	Douglas	Summit Twp.	2 Aug 2000		LAF
4075	Euphyes conspicua (W. H. Edwards, 1863)	COLUMBIA	French Creek Wildlife Area	15 Jul 2000		LAF
4075	Euphyes conspicua (W. H. Edwards, 1863)	Waukesha	Kettle Moraine SF	9 Jul 2000		JAЕ
4080	Atrytonopsis hianna (Scudder, 1868)	Burnett	Burnett CF, Crex, Danbury	25 May 2000		SAS
4080	Atrytonopsis hianna (Scudder, 1868)	Jackson	Black River SF/Jackson CF	15 May 2000	6 Jun 2000	SAS, JCP
4096	Amblyscirtes hegon (Scudder, 1864)	Douglas	Oakland Twp.	8 Jun 2000		JCP
4184	Eurytides marcellus (Cramer, 1777)	WAUKESHA	Okauchee	9 Jun 2000		JAЕ
4195	Pieris oleracea Harris, 1929	Douglas	Summit Twp.	2 Aug 2000		LAF
4195	Pieris oleracea Harris, 1929	Marathon	Norrie	20 May 2000		LAF
4195	Pieris oleracea Harris, 1929	Waukesha	S of Eagle	27 Apr 2000		JAЕ
4237	Eurema lisa (Boisduval & LeConte, 1829)	Crawford	Prairie du Chien	24 Jul 2000		JCP
4237	Eurema lisa (Boisduval & LeConte, 1829)	Grant	Jamestown Twp.	3 Sep 2000		LAF
4237	Eurema lisa (Boisduval & LeConte, 1829)	Jackson	Black River SF/Jackson CF	18 Jul 2000		SAS
4237	Eurema lisa (Boisduval & LeConte, 1829)	Portage	Buena Vista Marsh	7 Jun 2000	22 Aug 2000	SAS
4237	Eurema lisa (Boisduval & LeConte, 1829)	Sauk	International Crane Foundation	26 Aug 2000		SAS
4237	Eurema lisa (Boisduval & LeConte, 1829)	Waukesha	Okauchee	11 Jul 2000		JAЕ
4248	Nathalis iole Boisduval, 1836	Crawford	Prairie du Chien	23 Jun 2000	24 Jul 2000	JCP, LAF
4249	Feniseca tarquinius (Fabricius, 1793)	CLARK	Foster Twp.	7 Aug 2000		LAF
4249	Feniseca tarquinius (Fabricius, 1793)	Douglas	Summit Twp.	2 Aug 2000		LAF
4249	Feniseca tarquinius (Fabricius, 1793)	Jackson	Jackson County Forest	7 Aug 2000		LAF
4261	Lycaena dorcas (W. Kirby, 1837)	Iron	Oma Twp.	3 Jul 2000		LAF
4261	Lycaena dorcas (W. Kirby, 1837)	Lincoln	Harrison Twp.	1 Jul 2000		LAF
4318	Mitoura grynea (Hubner, [1819])	Grant	Cassville	23 Jul 2000		JCP
4318	Mitoura grynea (Hubner, [1819])	WAUKESHA	Kettle Moraine SF	3 Jun 2000		JAЕ
4325	Incisalia irus (Godart, 1824)	Jackson	Black River SF/Jackson CF	2 May 2000		SAS
4325	Incisalia irus (Godart, 1824)	Wood	Highway X	26 Apr 2000	23 May 2000	SAS
4326	Incisalia henrici (Grote & Robinson, 1867)	Jackson	Black River SF/Jackson CF	2 May 2000		SAS
4326	Incisalia henrici (Grote & Robinson, 1867)	Wood	Highway X	3 May 2000		SAS
4336	Strymon melinus Hubner, [1818]	Dane	UW-Madison Campus	2 Nov 2000		LAF
4336	Strymon melinus Hubner, [1818]	Grant	Jamestown Twp.	3 Sep 2000		LAF
4336	Strymon melinus Hubner, [1818]	Jackson	Black River SF/Jackson CF	23 May 2000	8 Aug 2000	SAS
4336	Strymon melinus Hubner, [1818]	Sauk	International Crane Foundation	6 Jul 2000		SAS
4336	Strymon melinus Hubner, [1818]	Waukesha	Oconomowoc	12 Oct 2000	18 Oct 2000	JAЕ
4360	Hemiargus isla (Reakirt, 1866)	Burnett	Burnett County Forest	27 Jul 2000		SAS
4372	Glaucopsyche lygdamus couperi Grt., 1873	Bayfield	Moquah Barrens	8 Jun 2000		JCP
4372	Glaucopsyche lygdamus couperi Grt., 1873	Waukesha	Kettle Moraine SF	27 Apr 2000	6 May 2000	JAЕ
4375	Lycaeides melissa samuelis Nabokov, 1944	Adams	Lake Arrowhead	22 Jul 2000		JCP
4375	Lycaeides melissa samuelis Nabokov, 1944	Juneau	Necedah NWR	9 Jul 2000		SAS
4375	Lycaeides melissa samuelis Nabokov, 1944	Marquette	Observatory Hill SNA	2 Aug 2000		JAЕ
4375	Lycaeides melissa samuelis Nabokov, 1944	Wood	Highway X	16 May 2000	23 Aug 2000	SAS
4376	Plebejus saepiolus (Boisduval, 1852)	Bayfield	Cornucopia	30 Jun 2000		JCP
4391	Calephelis muticum McAlpine, 1937	Marquette	Chaffee Creek	2 Aug 2000		SAS
4422	Polygonia satyrus (W. H. Edwards, 1869)	Oneida	Minocqua Twp.	10 Aug 2000		LAF
4423	Polygonia faunus (W. H. Edwards, 1862)	Douglas	Oakland Twp.	8 Jun 2000		JCP
4435	Vanessa cardui (Linnaeus, 1758)	Portage	Buena Vista Marsh	5 Jul 2000		SAS
4435	Vanessa cardui (Linnaeus, 1758)	Waukesha		24 Aug 2000	30 Sep 2000	JAЕ
4440	Junonia coenia Hubner, [1822]	Adams	Big Flats	18 Jun 2000		LAF

MONA No.	Species Name	County	Locality	Date 1	Date 2	Contr.
4440	<i>Junonia coenia</i> Hubner, [1822]	Columbia	Pine Island Wildlife Area	23 Jul 2000		SAS
4440	<i>Junonia coenia</i> Hubner, [1822]	Crawford	Prairie du Chien	23 Jun 2000		JCP, LAF
4440	<i>Junonia coenia</i> Hubner, [1822]	Grant	Jamestown Twp.	3 Sep 2000		LAF
4440	<i>Junonia coenia</i> Hubner, [1822]	Iowa	Thomson Prairie	18 Jul 2000		SAS
4440	<i>Junonia coenia</i> Hubner, [1822]	Jackson	Black River SF/Jackson CF	13 Jul 2000		SAS
4440	<i>Junonia coenia</i> Hubner, [1822]	Marathon	Wausau	18 Sep 2000		JCP
4440	<i>Junonia coenia</i> Hubner, [1822]	Portage	Buena Vista Marsh	22 Jun 2000	22 Aug 2000	SAS
4440	<i>Junonia coenia</i> Hubner, [1822]	Sauk	International Crane Foundation	7 May 2000	6 Aug 2000	SAS
4440	<i>Junonia coenia</i> Hubner, [1822]	St. Croix	W of Roberts	13 Jul 2000		SAS
4440	<i>Junonia coenia</i> Hubner, [1822]	Waukesha		7 Jun 2000	24 Oct 2000	JAE
4440	<i>Junonia coenia</i> Hubner, [1822]	WOOD	Highway X	19 Jul 2000		SAS
4447	<i>Euptoieta claudia</i> (Cramer, [1775])	Burnett	Crex Meadows	27 Jul 2000		SAS
4447	<i>Euptoieta claudia</i> (Cramer, [1775])	Crawford	Hogback Prairie	4 Jul 2000		SAS
4447	<i>Euptoieta claudia</i> (Cramer, [1775])	Grant	Jamestown Twp.	3 Sep 2000		LAF
4447	<i>Euptoieta claudia</i> (Cramer, [1775])	Jackson	Black River SF/Jackson CF	8 Aug 2000		SAS
4447	<i>Euptoieta claudia</i> (Cramer, [1775])	Portage	Buena Vista Marsh	5 Jul 2000	22 Aug 2000	SAS
4447	<i>Euptoieta claudia</i> (Cramer, [1775])	Sauk	International Crane Foundation	3 Jun 2000		SAS
4447	<i>Euptoieta claudia</i> (Cramer, [1775])	Waukesha	Vernon Marsh	31 Aug 2000		JAE
4452	<i>Speyeria idalia</i> (Drury, [1773])	Columbia	Pine Island Wildlife Area	8 Jul 2000		SAS
4452	<i>Speyeria idalia</i> (Drury, [1773])	Crawford	Hogback Prairie	27 Jun 2000	18 Jul 2000	SAS
4452	<i>Speyeria idalia</i> (Drury, [1773])	Green	Muralt Bluff Prairie	4 Jul 2000		SAS
4452	<i>Speyeria idalia</i> (Drury, [1773])	Iowa	Thomson Prairie	4 Jul 2000		SAS
4452	<i>Speyeria idalia</i> (Drury, [1773])	Portage	Buena Vista Marsh	28 Jun 2000		SAS
4463	<i>Boloria eunomia dawseni</i> (B. & McD., 1916)	Douglas	Oakland Twp.	8 Jun 2000		JCP
4464.1	<i>Boloria selene atrocotalis</i> (Huard, 1927)	Douglas	Pioneer Trail Wetland	2 Aug 2000		LAF
4474	<i>Boloria titania grandis</i> (B. & McD., 1916)	Douglas	Summit Twp.	2 Aug 2000		LAF
	on goldenrod, yarrow, Joe Pye Weed, fireweed, Spiraea, common milkweed and thistle flowers along edge of bog					
4474	<i>Boloria titania grandis</i> (B. & McD., 1916)	Douglas	Oakland Twp.	10 Aug 2000		JCP
4489	<i>Chlosyne gorgone carlota</i> (Reakirt, 1866)	Burnett	Crex Meadows	27 Jul 2000		SAS
4489	<i>Chlosyne gorgone carlota</i> (Reakirt, 1866)	Jackson	Black River SF/Jackson CF	15 May 2000		SAS
4489	<i>Chlosyne gorgone carlota</i> (Reakirt, 1866)	Jackson	Bauer-Brockway Barrens	3 Jun 2000		JCP
4489	<i>Chlosyne gorgone carlota</i> (Reakirt, 1866)	Jackson	Black River SF/Jackson CF	8 Aug 2000		SAS
4583	<i>Coenonympha tullia inornata</i> W. H. Edw., 1861	Bayfield	Cornucopia	30 Jun 2000		JCP
4583	<i>Coenonympha tullia inornata</i> W. H. Edw., 1861	Price	Fifield Twp.	3 Jul 2000		LAF
4611	<i>Oeneis jutta ascerta</i> Masters & Sorenson, 1968	Douglas	Oakland Twp.	8 Jun 2000		JCP
4611	<i>Oeneis jutta ascerta</i> Masters & Sorenson, 1968	Iron	Manitowish	29 May 2000		LAF
4611	<i>Oeneis jutta ascerta</i> Masters & Sorenson, 1968	Lincoln	Tomahawk	26 May 2000		LAF
4611	<i>Oeneis jutta ascerta</i> Masters & Sorenson, 1968	Marathon	Norrie	20 May 2000		LAF

M O T H S

	(Tortricidae)					
2950	<i>Phaneta kokana</i> (Kearfott, 1907)	BURNETT	Grantsburg	1 Oct 2000		MS
	STATE RECORD (?)					
2985	<i>Phaneta infimbriana candidula</i> (Heinrich, 1924)	BURNETT	T39N, R19W, Sec 23	11 Aug 2000		MS
	STATE RECORD, eastern range extension					
3114	<i>Eucosma landana</i> Kearfott, 1907	BURNETT	Crex Meadows	29 Apr 1999		MS
	misidentified as <i>E. simplex</i> in the 1999 Season Summary					
3445	<i>Acleris minuta</i> (Robinson, 1869)	Douglas		23 Sep 2000		MS
	reared from late instar larvae collected 4 Sept. on bog rosemary					
	(Pyralidae)					
6041	<i>Coenochroa bipunctella</i> (B. & McD., 1913)	BURNETT	Grantsburg	25 Jun 2000		MS
	STATE RECORD, possibly first interior US record of this Atlantic & Gulf Coastal Plain species					
	(Geometridae)					
6256	<i>Archiearis infans</i> (Möschler, 1862)	DOOR	Bailey's Harbor	2 Apr 2000		LAF
6256	<i>Archiearis infans</i> (Möschler, 1862)	Oneida	Minocqua Twp.	25 Mar 2000		LAF
6321	<i>Macaria truncataria</i> (Walker, 1862)	Marathon	Norrie	20 May 2000		CBF
6449	<i>Glena cribrataria</i> (Guenée, 1858)	JACKSON	Jackson County Forest	3 Jun 2000		LAF
6639	<i>Eufidonia discospilata</i> (Walker, 1862)	Marathon	Norrie	20 May 2000		CBF
6663	<i>Paleacrita merricata</i> Dyar, 1903	Jackson	Jackson County Forest	6 Mar 2000		LAF
6663	<i>Paleacrita merricata</i> Dyar, 1903	Trempealeau	Perrot State Park	5 Mar 2000		JCP
6704	<i>Erastria colorana</i> (Fabricius, 1798)	Burnett	Kohler-Peet, Namekagon Barrens	6 Jul 2000	29 Jul 2000	LAF, RJB
6898	<i>Cingilia catenaria</i> (Drury, 1773)	Marathon	Norrie	18 Sep 2000		LAF
7136	<i>Cyclophora packardi</i> (Prout, 1936)	Jackson	Jackson County Forest	3 Jun 2000		LAF
7218	<i>Thera contractata</i> (Packard, 1873)	ASHLAND	Outer Island	31 Jul 2000		LAF
7329	<i>Anticlea vasiliata</i> Guenée, 1858	DOOR	Bailey's Harbor	6 May 2000		JJS
7433	<i>Epirrita autumnata henschawi</i> (Swett, 1917)	Marquette	Dunbar Barrens	30 Sep 2000		RJB
7560.1	<i>Eupithecia frederickii</i> Knudson, 1985	GRANT	Cassville	19 May 1999		TR
	STATE RECORD, det. G. J. Balogh					

MONA No.	Species Name	County	Locality	Date 1	Date 2	Contr.
	(Mimallonidae)					
7662	Cicinnus melsheimeri (Harris, 1841)	Douglas	Wascott	7 Jun 2000		JCP
	(Lasiocampidae)					
7685	Heteropacha rileyana Harvey, 1874	Grant	Cassville	23 Jul 2000		JCP
	(Saturniidae)					
7709	Sphingicampa bicolor (Harris, 1841)	Grant	Cassville	23 Jul 2000		JCP
7716	Anisota stigma (Fabricius, 1775)	JACKSON	Jackson County Forest	9 Jul 1900		LAF
7723	Anisota virginensis (Drury, 1773)	BAYFIELD	Moquah Barrens	8 Jun 2000		JCP
7723	Anisota virginensis (Drury, 1773)	Douglas	Wascott	7 Jun 2000		JCP
7730	Hemileuca maia (Drury, 1773) complex	Jackson	Bear Bluff Twp.	29 Sep 2000		JCP
7730	Hemileuca maia (Drury, 1773) complex	Monroe	Meadow Valley	29 Sep 2000		JCP
7768	Hyalophora columbia columbia (S. I. Smith, 1865)	DOOR	Bailey's Harbor	8 Jun 2000		JJS
	(Sphingidae)					
7810	Sphinx gordius Cramer, 1780	Jackson	Black River Falls	3 Jun 2000		JCP
7859	Eumorphia pandorus (Hubner, 1821)	RICHLAND	Lone Rock	3 Jul 2000		JCP
	(Notodontidae)					
7900	Clostera brucei (Hy. Edwards, 1885)	BAYFIELD	Port Wing Boreal Forest SNA	9 Aug 2000		JCP
7926	Notodonta scitipennis Walker, 1862	DOOR	Bailey's Harbor	31 Jul 2000		JJS
7957	Dasylophia anguina (J. E. Smith, 1797)	Burnett	Kohler-Peet Barrens SNA	2 Aug 2000		LAF
8022	Hyparpax aurora (J. E. Smith, 1797)	Burnett	Namekagon Barrens	7 Jun 2000		JCP
8022	Hyparpax aurora (J. E. Smith, 1797)	Douglas	Dairyland Twp.	7 Jun 2000		JCP
	(Arctiidae)					
8120	Holomelina lamae (Freeman, 1941)	IRON	Manitowish	3 Jul 2000		LAF
8120	Holomelina lamae (Freeman, 1941)	LINCOLN	Harrison Twp.	1 Jul 2000		LAF
8120	Holomelina lamae (Freeman, 1941)	Marathon	Norrie	30 Jun 2000		LAF
8120	Holomelina lamae (Freeman, 1941)	PRICE	Fifield Twp.	3 Jul 2000		LAF
8146	Ecpantaria scribonia (Stoll, 1790)	JACKSON	Black River Falls	3 Jun 2000		JCP
8162	Platartia parthenos (Harris, 1850)	Marathon	Mud Lake	17 Jun 2000		JCP
8166	Arctia caja americana Harris, 1841	Bayfield	Port Wing Boreal Forest SNA	9 Aug 2000		JCP
8175.1	Grammia speciosa (Moschler, 1864)-	Bayfield	Port Wing Boreal Forest SNA	9 Aug 2000		JCP
8199	Grammia arge (Drury, 1773)	DOOR	Bailey's Harbor	5 Aug 2000		JJS
8254	Pygactia spraguei (Grote, 1875)	Jackson	Black River Falls	28 Jul 2000		JCP
	(Noctuidae)					
8366	Tetanolita mynesalis (Walker, 1859)	Dane	Middleton	20 Oct 2000		LAF
8366	Tetanolita mynesalis (Walker, 1859)	ONEIDA	Minocqua Twp.	30 Sep 2000		LAF
8413	Mycterophora inexplicata (Walker, 1862)	DOUGLAS	Oakland Twp.	30 Jul 2000		RJB
8491	Ledaia perditalis (Walker, 1859)	Grant	Woodman	23 Jun 2000		LAF
8574	Anticarsia gemmatilis Hubner, 1818	MANITOWOC	Two Rivers	1 Nov 2000		LAF
	two fresh specimens at sugar bait					
8587	Panopoda rufimargo (Hubner, 1818)	DOOR	Bailey's Harbor	27 Jul 2000		JJS
8588	Panopoda carneicosta Guenee, 1852	RICHLAND	Gotham	3 Jul 2000		JCP
8618	Drasteria graphica atlantica B. & McD., 1918	Ashland	Stockton Island	8 Jun 2000	5 Jul 2000	LAF
8776	Catocala coelebs Grote, 1874	ASHLAND	Stockton Island	24 Aug 2000		LAF
8776	Catocala coelebs Grote, 1874	Door	Bailey's Harbor	18 Aug 2000		JJS
8797	Catocala subnata Grote, 1864	Grant	Cassville	23 Jul 2000		JCP
8834	Catocala amatrix (Hubner, 1809-13)	Door	Bailey's Harbor	7 Sep 2000		JJS
8840	Catocala illecta Walker, 1858	Richland	Gotham	3 Jul 2000		JCP
8843	Catocala whitneyi Dodge, 1874	Burnett	Kohler-Peet Barrens SNA	11 Aug 2000		JCP
8844	Catocala amestris Strecker, 1874	Grant	Cassville	23 Jul 2000		JCP
8865	Catocala praeclara Grote & Robinson, 1866	JACKSON	Spaulding Lake	28 Jul 2000		JCP
8872	Catocala clintoni Grote, 1864	BURNETT	Kohler-Peet Barrens SNA	6 Jul 2000		LAF
8877	Catocala connubialis Guenee, 1852	Waushara	Cedar Creek SFA	24 Jul 2000		LAF
8889	Ctenoplusia oxygramma (Geyer, 1832)	MARATHON	Norrie	31 Aug 2000		LAF
8911	Autographa bimaculata (Stephens, 1830)	IRON	Oma Twp.	10 Aug 2000		LAF
8916	Autographa flagellum (Walker, 1858)	IRON	Manitowish	3 Jul 2000		LAF
8929	Syngrapha viridisigma (Grote, 1874)	ASHLAND	Stockton Island	24 Aug 2000		LAF
8929	Syngrapha viridisigma (Grote, 1874)	Bayfield	Port Wing Boreal Forest SNA	9 Aug 2000		JCP
9061	Cerma cora Hubner, 1818	BAYFIELD	Moquah Barrens	8 Jun 2000		JCP
9169	Bagisara rectifascia (Grote, 1874)	Burnett	Kohler-Peet Barrens SNA	6 Jul 2000		LAF
9214	Acronicta falcata (Grote, 1877)	BURNETT	Kohler-Peet Barrens SNA	2 Aug 2000		LAF
9224	Acronicta quadrata Grote, 1874	Douglas	Solon Springs Barrens SNA	7 Jun 2000		JCP
9254	Acronicta afflicta Grote, 1864	Bayfield	Port Wing Boreal Forest SNA	9 Aug 2000		JCP
9264	Acronicta longa Guenee, 1852	Jackson	Black River Falls	3 Jun 2000		JCP
9344	Apamea plutonia (Grote, 1883)	BURNETT	Namekagon Barrens	28 Jul 2000		RJB
9369	Apamea inficita (Walker)	ASHLAND	Outer Island & Rocky Island	31 Jul 2000	24 Aug 2000	LAF
	STATE RECORD, verified by M. C. Nielsen					
9380	Apamea relicina (Morrison, 1875)	ADAMS	Big Flats	26 Aug 2000		LAF
9380	Apamea relicina (Morrison, 1875)	WOOD	Saratoga Twp.	26 Aug 2000		LAF
9396	Eremobina claudens (Walker, 1857)	IRON	Oma Twp.	10 Aug 2000		LAF

MONA No.	Species Name	County	Locality	Date 1	Date 2	Contr.
9428	<i>Meropleon ambifuscum</i> (Newman, 1948)	WOOD	Saratoga Twp.	26 Aug 2000		LAF
9430	<i>Selicanis cinereola</i> J. B. Smith, 1900	Jackson	Black River Falls	29 Sep 2000		JCP
9434	<i>Spartiniphaga includens</i> (Walker, 1858)	Grant	Woodman	23 Jun 2000		LAF
9436	<i>Spartiniphaga panatela</i> (J. B. Smith, 1904)	IRON	Oma Twp.	3 Jul 2000		LAF
9464	<i>Papaipema cerina</i> (Grote, 1874)	CLARK	Foster Twp.	29 Sep 2000		JCP
9493	<i>Papaipema appassinata</i> (Harvey, 1876)	ASHLAND	Stockton Island	24 Aug 2000		LAF
9497	<i>Papaipema necopina</i> (Grote, 1876)	CLARK	Foster Twp.	29 Sep 2000		JCP
9503	<i>Papaipema rigida</i> (Grote, 1877)	Clark	Foster Twp.	29 Sep 2000		JCP
9506	<i>Papaipema sciata</i> Bird, 1908	Clark	Foster Twp.	29 Sep 2000		JCP
9514	<i>Hydraecia micacea</i> (Esper, 1789)	Bayfield	Port Wing Boreal Forest SNA	9 Aug 2000		JCP
9520	<i>Achatodes zeae</i> (Harris, 1841)	BAYFIELD	Port Wing Boreal Forest SNA	9 Aug 2000		JCP
9637	<i>Magusa orbifera</i> (Walker, 1857)	CLARK	Foster Twp.	29 Sep 2000		JCP
9637	<i>Magusa orbifera</i> (Walker, 1857)	Jackson	Black River Falls	29 Sep 2000		JCP
9637	<i>Magusa orbifera</i> (Walker, 1857)	MARINETTE	Dunbar Barrens	29 Sep 2000		RJB
9654	<i>Caradrina meralis</i> (Morrison, 1975)	ADAMS	Big Flats	26 Aug 2000		LAF
9657	<i>Caradrina multifera</i> (Walker, 1857)	Ashland	Stockton Island	24 Aug 2000		LAF
9657	<i>Caradrina multifera</i> (Walker, 1857)	BAYFIELD	Raspberry Island	24 Aug 2000		LAF
9699	<i>Condica sutor</i> (Guenee, 1852)	MANITOWOC	Two Rivers	1 Nov 2000		LAF
STATE RECORD, one specimen at sugar bait						
9886	<i>Lithophane patefacta</i> (Walker, 1858)	IRON	Oma Twp.	1 Oct 2000		LAF
9886	<i>Lithophane patefacta</i> (Walker, 1858)	JACKSON	Jackson County Forest	6 Mar 2000		LAF
9888	<i>Lithophane innominata</i> (J. B. Smith, 1893)	IRON	Oma Twp.	1 Oct 2000		LAF
9891	<i>Lithophane amanda</i> (J. B. Smith, 1900)	Door	Toft Point SNA	1 Apr 2000		LAF
9892	<i>Lithophane disposita</i> Morrison, 1874	Trempealeau	Trempealeau	5 Mar 2000		JCP
9899.1	<i>Lithophane thujae</i> Webster & Thomas, 1999	FOREST	Armstrong Creek	30 Sep 2000		RJB
9902	<i>Lithophane baileyi</i> Grote, 1877	IRON	Moose Lake Road	1 Oct 2000		LAF
9917	<i>Lithophane fagina</i> Morrison, 1874	DOOR	W of Bailey's Harbor	2 Apr 2000		LAF
9922	<i>Lithophane pexata</i> Grote, 1874	IRON	Oma Twp.	1 Oct 2000		LAF
9925	<i>Lithophane lepida</i> Grote, 1874	MARINETTE	Dunbar Barrens	29 Sep 2000		RJB
STATE RECORD, one specimen at MV light, det. L. A. Ferge						
9939	<i>Eupsilia devia</i> (Grote, 1875)	Marinette	Dunbar Barrens	30 Sep 2000		RJB
9939	<i>Eupsilia devia</i> (Grote, 1875)	TREMPEALEAU	Trempealeau	5 Mar 2000		JCP
9944	<i>Metaxaglaea viatica</i> (Grote, 1874)	MANITOWOC	Two Rivers	5 Nov 2000		LAF
STATE RECORD, one specimen at sugar bait						
9948	<i>Chaetoglaea cerata</i> Franclemont, 1943	Marinette	Dunbar Barrens	30 Sep 2000		RJB
9950	<i>Chaetoglaea sericea</i> (Morrison, 1874)	Marinette	Dunbar Barrens	29 Sep 2000		RJB
10020	<i>Psaphida thaxteriana</i> (Grote, 1874)	Jackson	Pray	5 Mar 2000		JCP
10059	<i>Homohadena badistriga</i> (Grote, 1872)	Burnett	Kohler-Peet Barrens SNA	6 Jul 2000		LAF
10108	<i>Oncocnemis viriditincta</i> J. B. Smith, 1894	ADAMS	Big Flats	26 Aug 2000		LAF
10135	<i>Oncocnemis riparia</i> Morrison, 1875	BURNETT	Namekagon Barrens	28 Jul 2000		RJB
10266	<i>Sideridis congermana</i> (Morrison, 1874)	Douglas	Dairyland Twp.	7 Jun 2000		JCP
10266	<i>Sideridis congermana</i> (Morrison, 1874)	Jackson	Black River Falls	3 Jun 2000		JCP
10294	<i>Melanchra pulverulenta</i> (J. B. Smith, 1888)	IRON	Manitowish	3 Jul 2000		LAF
10296	<i>Lacanobia nevadae</i> (Grote, 1876)	ASHLAND	Outer Island	5 Jul 2000		LAF
10296	<i>Lacanobia nevadae</i> (Grote, 1876)	Forest	Armstrong Creek Bog	30 May 2000		RJB
10302	<i>Trichordestra rugosa</i> (Morrison, 1875)	DOUGLAS	Wascott & Oakland Twp.	7 Jun 2000	30 Jun 2000	JCP
10302	<i>Trichordestra rugosa</i> (Morrison, 1875)	Jackson	Jackson County Forest	3 Jun 2000		JCP, LAF
10664	<i>Agrotis subterranea</i> (Fabricius, 1794)	MANITOWOC	Two Rivers	1 Nov 2000		LAF
STATE RECORD, one specimen at sugar bait						
10714	<i>Euxoa quebecensis</i> (J. B. Smith, 1900)	Bayfield	Port Wing Boreal Forest SNA	29 Jun 2000		JCP
10714	<i>Euxoa quebecensis</i> (J. B. Smith, 1900)	Bayfield	Raspberry Island	5 Jul 2000		LAF
10727	<i>Euxoa pleuritica</i> (Grote, 1876)	Ashland	Rocky Island	31 Jul 2000	24 Aug 2000	LAF
10730	<i>Euxoa lidia thanatologia</i> (Dyar, 1904)	Oneida	Sugar Camp	1 Jul 2000		LAF
10731	<i>Euxoa auxiliaris</i> (Grote, 1873)	Bayfield	Port Wing Boreal Forest SNA	9 Aug 2000		JCP
10731	<i>Euxoa auxiliaris</i> (Grote, 1873)	DANE	Middleton	19 Oct 2000		LAF
10731	<i>Euxoa auxiliaris</i> (Grote, 1873)	GRANT	Cassville	23 Jul 2000		JCP
10738	<i>Euxoa mimallonis</i> (Grote, 1873)	BAYFIELD	Rocky Island	31 Jul 2000	24 Aug 2000	LAF
10831	<i>Euxoa niveilinea</i> (Grote, 1882)	WOOD	Saratoga Twp.	26 Aug 2000		LAF
10863	<i>Euxoa manitobana</i> McDunnough, 1925	BURNETT	Namekagon Barrens	28 Jul 2000		RJB
10865	<i>Euxoa perpolita</i> (Morrison, 1876)	Ashland	Stockton Island	24 Aug 2000		LAF
10947	<i>Xestia oblata</i> (Morrison, 1875)	Bayfield	Port Wing Boreal Forest SNA	29 Jun 2000		JCP
10997	<i>Cerastis fishii</i> (Grote, 1878)	VILAS	Land O' Lakes Twp.	3 May 2000		JCP
11095	<i>Schinia indiana</i> (J. B. Smith, 1908)	Burnett	Danbury & Crex Meadows	25 May 2000		SAS
11095	<i>Schinia indiana</i> (J. B. Smith, 1908)	Jackson	Jackson CF & Black River SF	23 May 2000	30 May 2000	SAS
not seen 6 June 2000						
11141	<i>Schinia thoreau</i> (Grote & Robinson, 1870)	WAUSHARA	Wedde Creek SFA	24 Jul 2000		LAF
11164	<i>Schinia florida</i> (Guenee, 1852)	ASHLAND	Stockton & Outer Islands	31 Jul 2000		LAF
11174	<i>Schinia lucens</i> (Morrison, 1875)	Green	Muralt Prairie & Oliver Prairie	4 Jul 2000		SAS
11174	<i>Schinia lucens</i> (Morrison, 1875)	Iowa	Thomson Prairie	18 Jul 2000		SAS

Wisconsin Entomological Society



Janice Stiefel, Editor
2125 Grove Rd.
Bailey's Harbor, WI 54202

Address Correction Requested

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The SECRET of the Color RED

by Janice Stiefel

When Cortes enter into Mexico
In the year of fifteen nineteen,
He noticed something that, heretofore,
Had never, ever been seen.

It was an exquisite shade of color
They called it "brilliant red."
T'was used on the soldiers' shields
And in their fabric thread.

Cortes asked many questions,
Searching for their secret dye.
Then he discovered bags of powder,
Soon after he became a spy.

Sending the bags on a boat to Spain
Was his eventual and sneaky plan.
Ladies would want it for their clothes,
As well as each and every man.

Catholic Cardinals sought the color, too;
For the long robes they wore.
Michelangelo used it in paintings
Everyone wanted it more and more.

In seventeen hundred, a Dutch scientist
Observed with his new microscope
That the powdered substance in the bags
Contained tiny LEGS—there was hope!

Since the dye was always exported
From a "secret Mexican farm,"
It would take some tricky adventurers
Using their wily ways and charm.

They found fields of large cacti,
Called "Prickly Pear," to be exact,
Each was covered with tiny insects
Like mealybugs, as a matter-of-fact.

The insects were black, red and wingless
About the size of a match's head.
THEY were the long-sought secret—
The marvelous news then spread.

Making the dye was quite tedious;
Insects had to be captured and dried.
Only the females contained the pigment,
So the males were tossed aside.



Rollers were used by the women.
Each bug was actually stone-ground.
It took seventy-thousand insect bodies
Just to make a single pound.

For more than three centuries
This tiny insect was in demand,
Using it for sausage, medicine and food,
Anything red—throughout every land.

With eighteen hundred came synthetics
To ease the demand a small bit.
Today, it's used in make-up and paint,
And for photography it has always fit.

Thanks to those tiny insects with legs
And the Mexican Prickly Pear
Our lives are illumined with color—
"Brilliant" red for us to use with flair!

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According to the Wisconsin Plant Checklist, there are three species of Prickly Pear Cacti found in Wisconsin, while the tropics play host to many more. The species used for dye purposes was probably the Cochineal Insect Cactus (*Opuntia cochineillifera*), which is a native of Mexico, now cultivated in the West Indies and other places, as well.